

# Interface converter - PSM-ME-RS232/TTY-P - 2744458

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Interface converter, for converting RS-232 (V.24) to TTY, with electrical isolation, 2 channels, rail-mountable

## Product Description

This converter converts a V.24 (RS-232) interface into a 20 mA TTY current loop interface bidirectionally. The interference immune TTY signal allows problem-free data transmission over distances of up to 1000 m using a twisted-pair and shielded 4-wire cable.


## Your advantages

- ✓ Mounting on standard EN DIN rails
- ✓ Transmission distances of up to 1000 m in active TTY mode
- ✓ High-quality 3-way isolation up to 2 kV (VCC // RS-232 // TTY)
- ✓ In the case of variable cable lengths, the TTY connection on the field side can be established conveniently using plug-in screw terminal blocks
- ✓ Integrated surge protection with transient discharge to the DIN rail
- ✓ Conversion of RS-232 TxD/RxD full duplex data signals to the TTY current loop standard
- ✓ Semi-active, active or passive TTY mode, depending on pin assignment
- ✓ 24 V DC or AC power supply suitable for the control cabinet
- ✓ Active data transmission indicated by separate data indicators for the transmit and receive channels
- ✓ RS-232 connection via 9-pos. D-SUB and standard RS-232 cable
- ✓ Transmission speed of up to 19.2 kbps
- ✓ Shipbuilding approval in accordance with DNV GL



TTY<sub>RS-232</sub>

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 171803
GTIN	4017918171803

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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# Interface converter - PSM-ME-RS232/TTY-P - 2744458

## Technical data

### Dimensions

Caption	Slim design
Width	22.5 mm
Height	99 mm
Depth	118.6 mm

### Ambient conditions

Ambient temperature (operation)	0 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Degree of protection	IP20
Noise immunity	EN 61000-6-2:2005

### General

Transmission channels	2 (1/1), Rx/D, Tx/D, full duplex
Bit delay	< 3 µs
Bit distortion	< 5 %
Electrical isolation	VCC // V.24 (RS-232) // TTY
Test voltage data interfaces	2 kV AC
Test voltage data interface/power supply	2 kV AC
	2 kV <sub>rms</sub> (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 61000-6-4
Net weight	179.6 g
Housing material	PA
Color	green
MTBF	1989 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	410 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

### Power supply

Nominal supply voltage	24 V AC/DC ±20 % (via pluggable COMBICON screw terminal block)
Typical current consumption	75 mA (24 V DC)
Protective circuit	Surge protection Suppressor diode

### Interfaces

Interface 1	V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1
Connection method	D-SUB 9 plug
Transmission length	15 m (shielded twisted pair)
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>

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## Technical data

### Interfaces

Conductor cross section AWG min.	24
Conductor cross section AWG max.	13
Pin assignment	DTE/DCE switchover via switch
Protocols supported	transparent protocol
Serial transmission speed	≤ 19.2 kbps
Interface 2	TTY interface, CL2 in acc. with DIN 66348-1
Operating mode	Active, semi active, passive
Connection method	Pluggable screw connection
Transmission length	1000 m (shielded twisted pair)
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	13
Load/output load current output	≤ 500 Ω
Impedance	≤ 117 Ω (Output)
	126 Ω (Input)
Serial transmission speed	≤ 19.2 kbps
Output current	2x 20 mA ±10 % (Loop current)

### Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	EAC
Identification	EAC
Designation	UL, USA/Canada
Identification	508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, AEx nA IIC T4
	Class I, Zone 2, Ex nA IIC T4 Gc X
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A
Designation	Shipbuilding
Identification	DNV GL
Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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### Technical data

#### Standards and Regulations

Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Standards/regulations	EN 61000-4-3
Frequency range	Test Level 3
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 2 kV (42 Ω)
Standards/regulations	EN 55011
	EN 61000-4-6

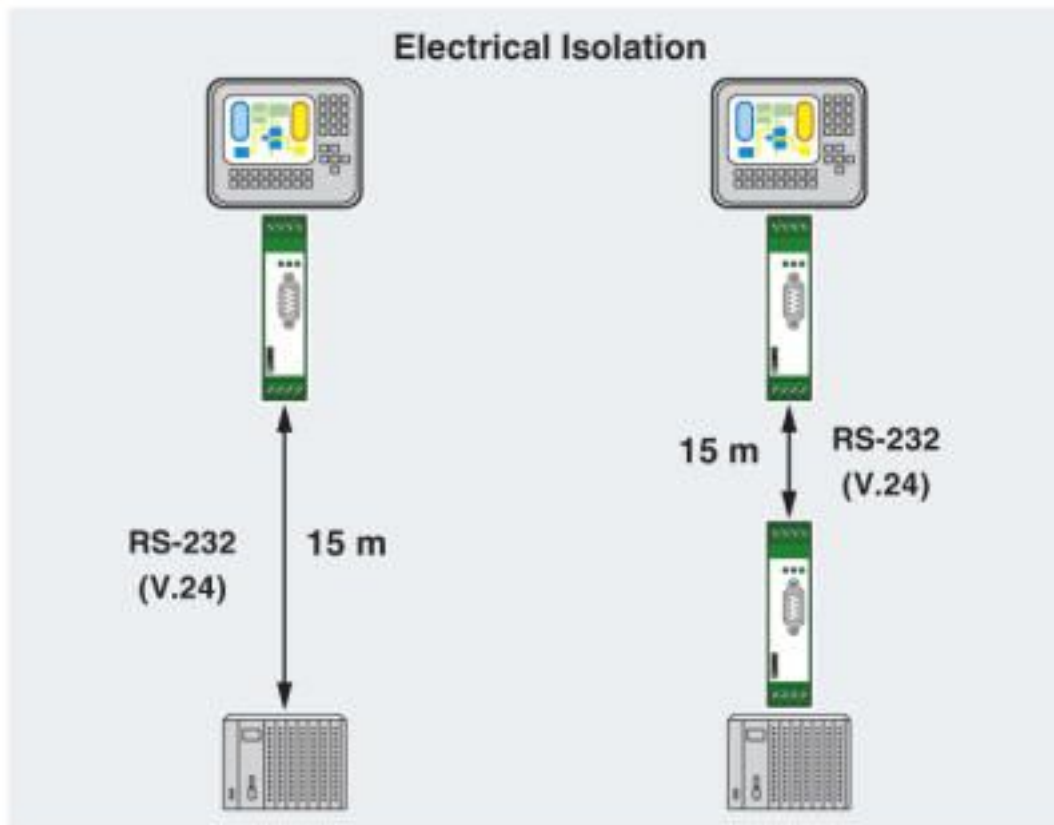
#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

# Interface converter - PSM-ME-RS232/TTY-P - 2744458

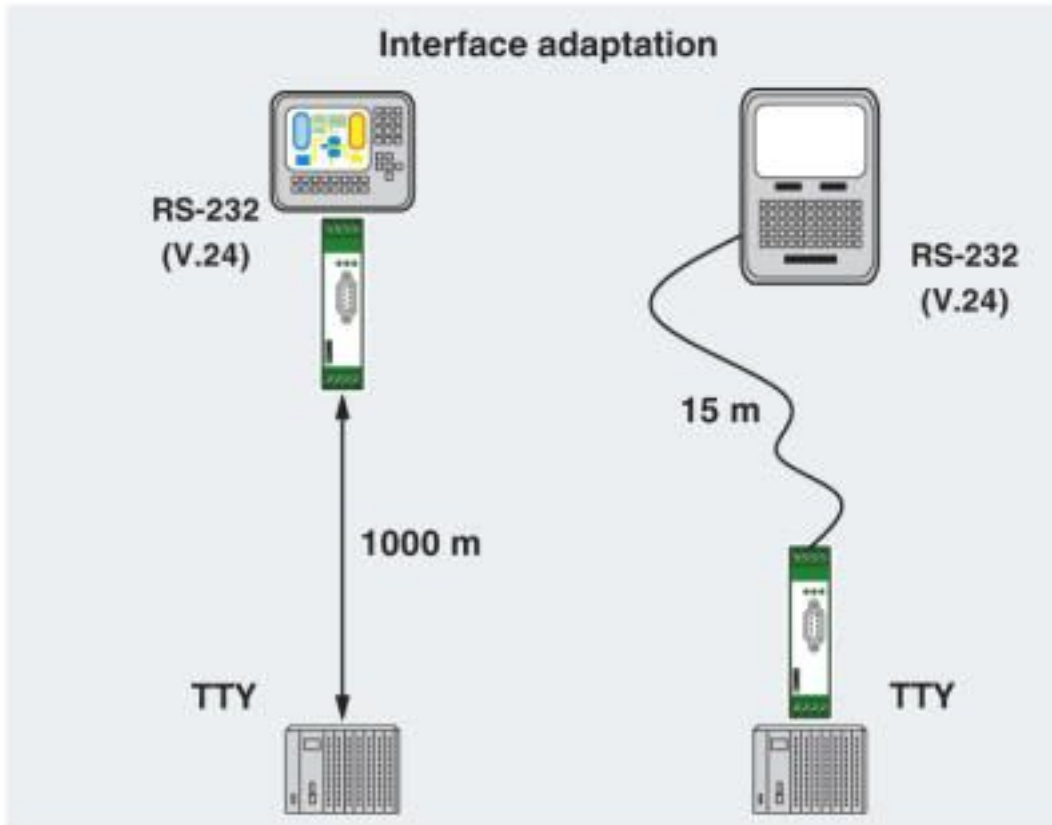
Application drawing



Electrical isolation

# Interface converter - PSM-ME-RS232/TTY-P - 2744458

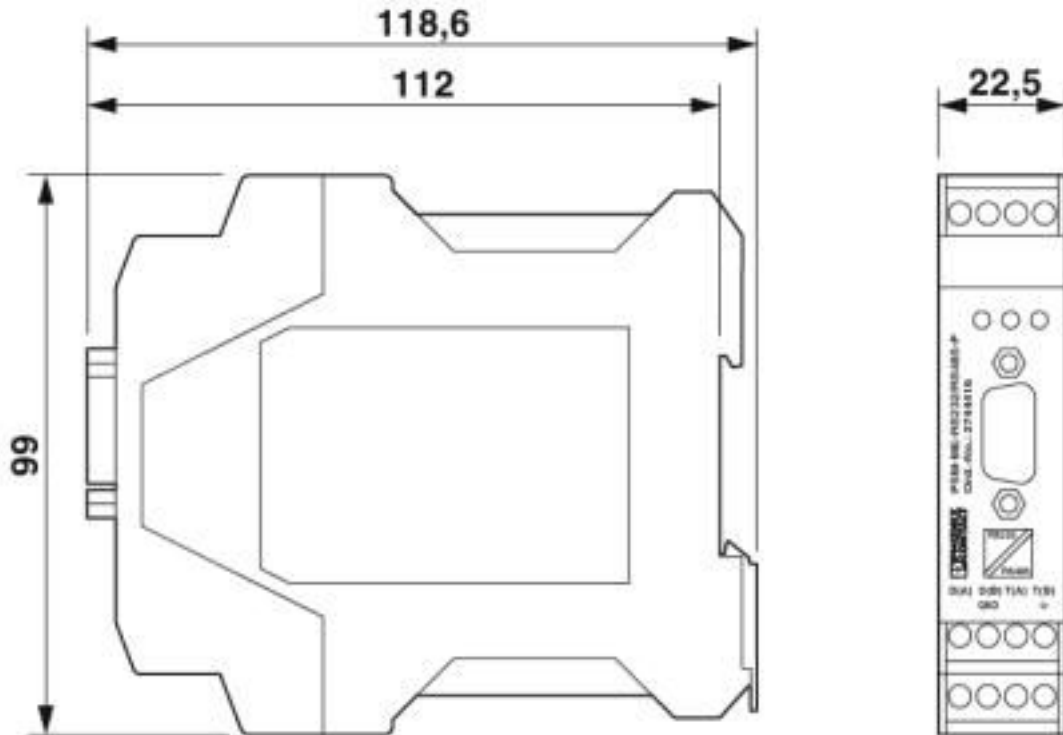
Application drawing



Interface adaptation

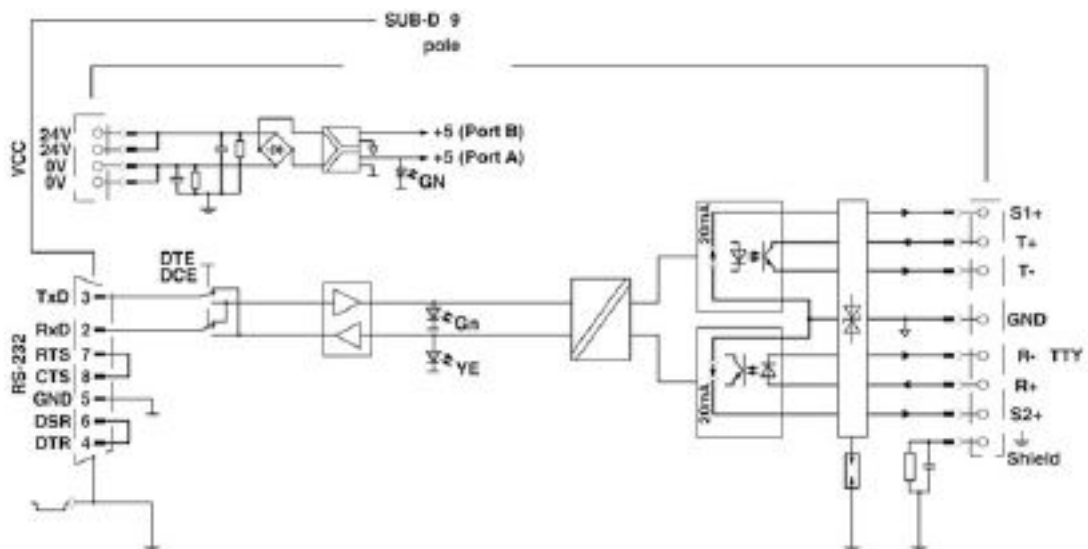
# Interface converter - PSM-ME-RS232/TTY-P - 2744458

Dimensional drawing



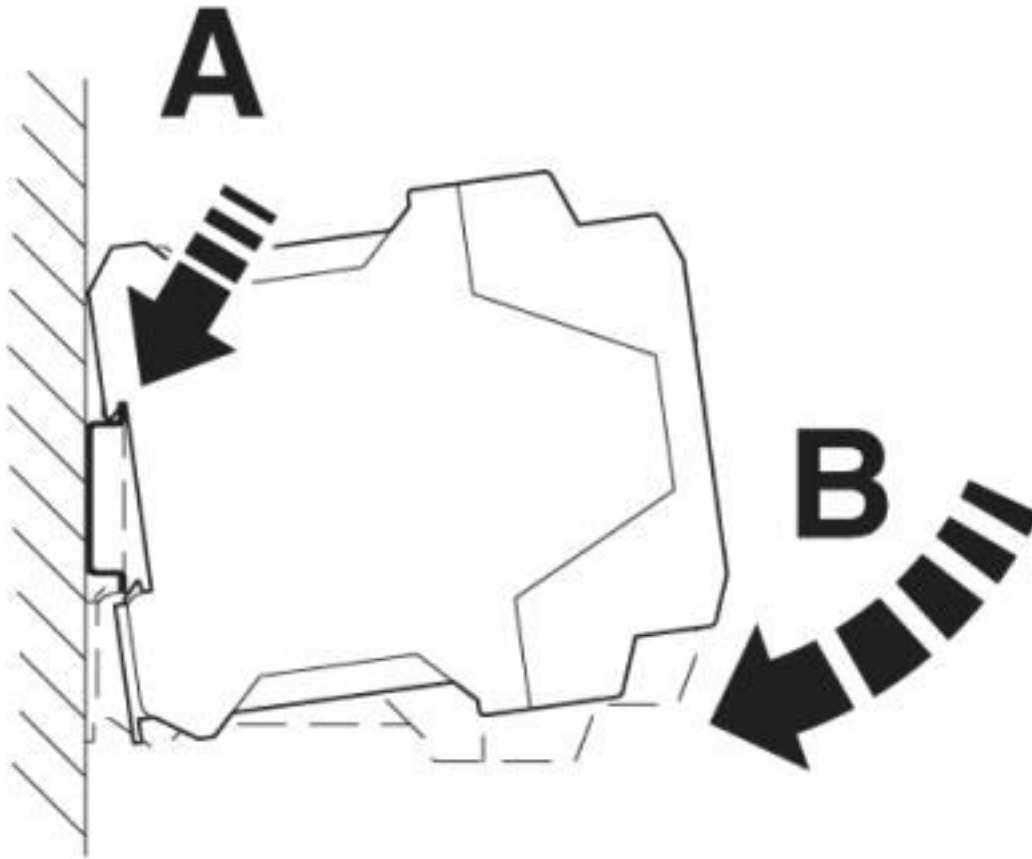
Slim design

Circuit diagram



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Schematic diagram



Mounting

## Classifications

eCl@ss

eCl@ss 10.0.1	19179290
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27242200
eCl@ss 5.1	27242200
eCl@ss 6.0	19179200
eCl@ss 7.0	19179290
eCl@ss 8.0	19179290
eCl@ss 9.0	19179290

ETIM

ETIM 2.0	EC000698
ETIM 3.0	EC000698
ETIM 4.0	EC000698



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## Classifications

### ETIM

ETIM 5.0	EC000310
ETIM 6.0	EC000310
ETIM 7.0	EC000310

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222604
UNSPSC 18.0	43222604
UNSPSC 19.0	43222604
UNSPSC 20.0	43222604
UNSPSC 21.0	43222604

## Approvals

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#### Approvals

DNV GL / UL Recognized / cUL Recognized / EAC / cULus Recognized

#### Ex Approvals

cUL Recognized / UL Listed / cUL Listed / cULus Listed

### Approval details

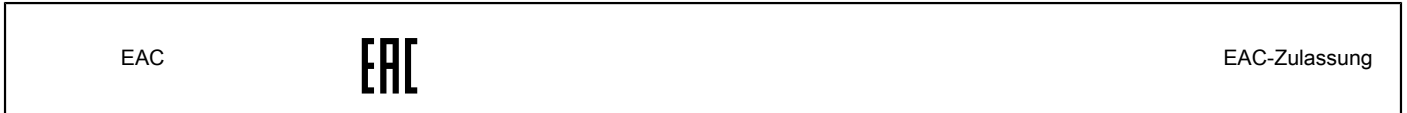
DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00001KR
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UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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## Approvals



## Accessories

### Accessories

#### Adapter cable

Data cable - PSM-KA9SUB9/BB/2METER - 2799474



RS-232 cable, 9-pos. D-SUB socket on 9-pos. D-SUB socket, 9-wire, 1:1

#### Data plug

D-SUB bus connector - SUBCON 9/F-SH - 2761499



D-SUB plug, 9-pos. female connector, one cable entry < 35°, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

#### Mounting material

Shield connection clamp - ME-SAS - 2853899



Shield connection clamp for printed circuit terminal block

#### Screwdriver tools

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### Accessories

Screwdriver - SZF 1-0,6X3,5 - 1204517



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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